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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEI, TSULEUN R

ART UNIT PAPER NUMBER

2684

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

N.K.

Office Action Summary

Application No.

09/661,967

Applicant(s)

FERIA ET AL.

Examiner

T. Richard Lei

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Fig.1 does not show "16F" as repeated mentioned on page 5 of the Specification. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 3 is objected to because of the following informalities: the word "prior" is placed at a wrong place. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claim 6-7, 10 and 12-13 are rejected because there is insufficient antecedent basis for the limitations in the claims. However, the examination on merit proceeds with the assumption that: Claim 6 dependents from Claim 5, instead from Claim 2, Claim 7 dependents from Claim 6, instead from Claim 3,

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Claim 10 depends from Claim 9, instead from Claim 7,

Claim 12 depends from Claim 11, instead from Claim 9,

Claim 13 depends from Claim 11, instead from Claim 9.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ibanez-Meier et al. (U.S. Patent 6,151,308) in view of Mesecher et al. (U.S. Patent 6,289,004).

Regarding Claim 1, Ibanez-Meier teaches a communications system comprising: stratospheric platform having a payload controller and a phased array antenna having a plurality of elements for generating a first beam and a second beam (Fig.1); a gateway station in communication with said stratospheric platform (Col.4, Lines 60-65, communication gateways), said gateway station receiving a first signal having a first beam having interference from the second beam therein and receiving a second signal having

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said second beam having interference from the first beam therein (Col.16, Lines 37-41, and Lines 53-55). Ibanez-Meier does not teach how the interference can be reduced or removed. Mesecher, however, teaches that the gateway station comprising a first subtracting block for subtracting said second signal from said first signal to obtain the first beam; said gateway station comprising a second subtracting block for subtracting said first signal from said second signal to obtain a second beam (Mesecher, Col.2, Lines 3-18; and Fig.10, where phased array antenna is equivalent to having more than one antenna as shown in Fig.10 of Mesecher). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to combine the teaching of Mesecher to that of Ibanez-Meier, so that communication channels could be more reliable when using the stratospheric platform structure.

Regarding Claim 2, Ibanez-Meier as modified by Mesecher teaches a communication system as recited in claim 1 wherein said gateway station weights said second signal with a first weight prior to subtracting said second signal from said first signal (Mesecher, Col.2, Lines 8-11).

Regarding Claim 3, Ibanez-Meier as modified by Mesecher teaches a communication system as recited in claim 1 wherein said gateway station weights said first signal with a second weight prior to subtracting said second signal from said first signal (Mesecher, Col.2, Lines 8-11).

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Regarding Claim 4, Ibanez-Meier as modified by Mesecher teaches a communication system as recited in claim 1 wherein said first weight and said second weight are a function of said user position files (Mesecher, Col.4, Lines 16-29).

Regarding Claim 5, Ibanez-Meier as modified by Mesecher teaches a communications system as recited in claim 1, wherein the payload controller comprises a demultiplexer for receiving control signals (Ibanez-Meier, Figs.2-4).

Regarding Claim 6, Ibanez-Meier as modified by Mesecher teaches a communications system as recited in claim 5, wherein the demultiplexer generates a plurality of element control signals (Ibanez-Meier, Figs.2-4).

Regarding Claim 7, Ibanez-Meier as modified by Mesecher teaches a system as recited in claim 6, wherein the element control signals are coupled to an RF feed, the RF feed is coupled to elements of said phased array antenna (Ibanez-Meier, Figs.1-4).

Regarding Claim 8, Ibanez-Meier as modified by Mesecher teaches a system as recited in claim 1, wherein the gateway station comprises a beam generator for generating beam signals (Ibanez-Meier, Figs.1-4).

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Regarding Claim 9, Ibanez-Meier as modified by Mesecher teaches a system as recited in claim 1, wherein said gateway station further comprises a multiplexes/demultiplexer (Ibanez-Meier, Fig.16).

Regarding Claim 10, Ibanez-Meier as modified by Mesecher teaches a system as recited in claim 9, wherein said multiplexes/demultiplexer comprises a code division multiplexes/demultiplexer (Mesecher, Col.2, Line 22).

Regarding Claim 11, Ibanez-Meier as modified by Mesecher teaches a system as recited in claim 1, wherein said ground station is coupled to a terrestrial network (Ibanez-Meier, Col.8, Lines 49-56).

Regarding Claim 12, Ibanez-Meier as modified by Mesecher teaches a system as recited in claim 11, wherein said terrestrial network comprises the Internet (Ibanez-Meier, Col.14, Line 50).

Regarding Claim 13, Ibanez-Meier as modified by Mesecher teaches a system as recited in claim 11, wherein the terrestrial network comprises the public service telephone network (Ibanez-Meier, Col.8, Lines 49-56, where terrestrial network usually includes the public service telephone network).

Regarding Claim 14, see Claim 1 for the teaching of Ibanez-Meier and Mesecher.

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Regarding Claim 15, see Claims 2, 3, 5, and 7 for the teaching of Ibanez-Meier and Mesecher.

Regarding Claim 16, see Claim 1 for the teaching of Ibanez-Meier and Mesecher.

Regarding Claim 17, see Claim 4 for the teaching of Ibanez-Meier and Mesecher.

Regarding Claim 18, see Claims 1-3, 5 and 7 for the teaching of Ibanez-Meier and Mesecher.

Regarding Claim 19, see Claim 4 for the teaching of Ibanez-Meier and Mesecher.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Von der Embse et al. (U.S. Patent 5,903,549) teaches a ground based beam forming system.

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Holma et al. (U.S. Patent 6,463,294) teaches a method for reducing interference in a mobile communications system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. Richard Lei whose telephone number is 703-305-4828. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 703-305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5403 for regular communications and 703-308-5403 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

TRL

TRL
March 3, 2003


THANH CONG LE
PRIMARY EXAMINER 3/3/03
